



# ecology and environment, inc.

Global Environmental Specialists

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## MEMORANDUM

DATE: June 29, 2015

TO: Eric Nuchirns, Project Manager, E & E, Seattle, Washington

FROM: Mark Woodke, START-4 Chemist, E & E, Seattle, Washington *MW*

SUBJ: Organic Data Quality Assurance Review, John Day Vapor Response Site.  
John Day, Oregon

REF: TDD: 15-05-0005 PAN: 1004530.0004.111.62

The data quality assurance review of 2 soil and 9 water samples collected from the John Day Vapor Response site in John Day, Oregon, has been completed. Volatile Organic Compound (VOC) analysis (EPA Method 8260) was performed by TestAmerica, Inc., Tacoma, Washington. All sample analyses were evaluated following EPA's Stage 2B and/or 4 Data Validation Electronic and/or Manual Process (S2B/4VE/M).

The samples were numbered:

15053124	15053125	15053126	15053127	15053128
15053129	15053130	15053131	15053132	15053511
15053512				

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of < 6°C. The samples were collected on June 3 or 4, 2015, and were analyzed by June 10, 2015, therefore meeting QC criteria of less than 7 days between collection and analysis for unpreserved water samples and less than 14 days for soil samples.

#### 2. Tuning: Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. Initial Calibration: Acceptable.

All average Relative Response Factors (RRFs) were within the QC limits. All Relative Standard Deviations (RSDs) were within the QC limits.

**4. Continuing Calibration: Satisfactory.**

All RRFs were within the QC limits. All applicable % differences were within the QC limits except dichlorodifluoromethane, chloromethane, bromomethane, and trichlorofluoromethane in the June 5, 2015 (14:59) calibration with low recoveries; positive results and sample quantitation limits associated with low recovery outliers were qualified as estimated quantities with a low bias (JL or UJL).

**5. Blanks: Satisfactory.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank except the tentatively identified compounds ethyl methacrylate (0.343 ug/L) and ethyl ether (5.99 ug/kg) (no actions were taken as these compounds were not detected in any associated samples) and ethylbenzene (2.46 ug/kg), methylene chloride (12.9 ug/kg), m,p-xylene (4.13 ug/kg), 1,2,4-trichlorobenzene (5.61 ug/kg), tetrachloroethene (14.7 ug/kg), 1,2,3-trichlorobenzene (6.43 ug/kg), toluene (6.81 ug/kg), and naphthalene (11.4 ug/kg) (associated positive sample results less than five times the method blank results were qualified as not detected [U]).

**6. System Monitoring Compounds (SMCs): Satisfactory.**

All SMC recoveries were within QC limits except two high surrogates in sample 15053127 and 15053128; no actions were taken as there were no detections in the associated samples.

**7. Matrix Spike (MS)/MS Duplicate (MSD)/Blank Spike (BS)/BS Duplicate (BSD) Analysis: Satisfactory.**

Spike analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except the June 5, 2015 BS/BSD with high recoveries for 1,2-dibromoethane, 1,2,3-trichlorobenzene, and naphthalene (no actions were taken as there were no detections of these analytes in the associated samples), the MS/MSD analyses of sample 15053127 with high recoveries of chlorobenzene and t-butyl benzene (no actions were taken as there were no detections of these analytes in the native sample) and low recoveries of m,p-xylenes, o-xylene, styrene, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, 4-isopropyltoluene, 1,2,4-trichlorobenzene, and 1,2,3-trichlorobenzene (associated sample quantitation limits were qualified as estimated quantities with a low bias [UJL] in sample 15053127), o-xylene, 2,2-dichloropropane, and isopropylbenzene with high recoveries in the June 6, 2015 BS/BSD (no actions were taken as there were no detections of these analytes in the associated samples), and bromoform, ethylbenzene, m,p-xylene, toluene, trans-1,3-dichloropropene, and trichloroethene (high recovery outliers in the soil BS/BSD that were also detected in the soil samples; associated positive results were qualified as estimated quantities with a high bias JH).

**8. Duplicate Analysis: Satisfactory.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All matrix spike duplicate results were within QC limits except styrene, 1,3,5-trimethylbenzene, and 1,2,4-trimethylbenzene; no additional qualifications were applied based on these outliers.

**9. Internal Standards: Acceptable.**

All internal standards were within  $\pm$  30 seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

**Data Qualifiers and Definitions**

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- JH - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a high bias.
- JL - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a low bias.
- JK - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias.
- JQ - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias and falls between the MDL and the Minimum (or Practical) Quantitation Limit (MQL, PQL).
- N - The analysis indicates the present of an analyte for which there is presumptive evidence to make a "tentative identification".
- NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053124

Lab Sample ID: 580-50524-1

Client Matrix: Water

Date Sampled: 06/03/2015 1108

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662494.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 1921			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 1921				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0
Chloromethane	ND		0.64	5.0
Bromomethane	ND		0.27	5.0
Trichlorofluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
Benzene	ND		0.42	2.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
Toluene	ND		0.44	2.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropene	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND	*	0.15	1.0
Chlorobenzene	ND		0.42	2.0
Ethylbenzene	ND		0.51	3.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
m-Xylene & p-Xylene	ND		0.13	3.0
o-Xylene	ND		0.49	2.0
Styrene	ND		0.62	5.0
Bromoform	ND		0.21	1.0
Isopropylbenzene	ND		0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	ND		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	ND		0.50	3.0
4-Chlorotoluene	ND		0.46	2.0
t-Butylbenzene	ND		0.53	3.0
1,2,4-Trimethylbenzene	ND		0.50	3.0

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## Analytical Data

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Date Received: 06/05/2015 0825

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Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662494.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 1921			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 1921				

Analyte	Result (ug/L)	Qualifier	MDL	RL
sec-Butylbenzene	ND		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluene	ND		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0
n-Butylbenzene	ND		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND	*	0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	ND	*	0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0
Ethyl t-butyl ether	ND		0.34	5.0
Diisopropyl ether	ND		0.12	1.0
Tert-amyl methyl ether	ND		0.29	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	99		85 - 120
4-Bromofluorobenzene (Surr)	100		75 - 120
Dibromofluoromethane (Surr)	97		85 - 115
Trifluorotoluene (Surr)	98		70 - 136
1,2-Dichloroethane-d4 (Surr)	95		70 - 120

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053124

Lab Sample ID: 580-50524-1

Client Matrix: Water

Date Sampled: 06/03/2015 1108

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662494.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 1921			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 1921				

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

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## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053124

Lab Sample ID: 580-50524-1

Date Sampled: 06/03/2015 1108

Client Matrix: Water

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191404	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358999.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/06/2015 1724	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/06/2015 1724				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.22 ✓	1.0
Chloroethane	ND		0.40 ✓	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	104		85 - 120
4-Bromofluorobenzene (Surr)	95		75 - 120
Dibromofluoromethane (Surr)	107		85 - 115
Trifluorotoluene (Surr)	94		70 - 136
1,2-Dichloroethane-d4 (Surr)	93		70 - 120

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## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

**Client Sample ID:** 15053124

Lab Sample ID: 580-50524-1

Client Matrix: Water

Date Sampled: 06/03/2015 1108

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191404	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358999.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/06/2015 1724	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/06/2015 1724				

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

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## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053125

Lab Sample ID: 580-50524-2

Client Matrix: Water

Date Sampled: 06/03/2015 1225

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662495.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 1947			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 1947				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0
Chloromethane	ND		0.64	5.0
Bromomethane	ND		0.27	5.0
Trichlorofluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
Benzene	ND		0.42	2.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
Toluene	ND		0.44	2.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropane	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND	*	0.15	1.0
Chlorobenzene	ND		0.42	2.0
Ethylbenzene	ND		0.51	3.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
m-Xylene & p-Xylene	ND		0.13	3.0
o-Xylene	ND		0.49	2.0
Styrene	ND		0.62	5.0
Bromoform	ND		0.21	1.0
Isopropylbenzene	ND		0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	ND		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	ND		0.50	3.0
4-Chlorotoluene	ND		0.46	2.0
t-Butylbenzene	ND		0.53	3.0
1,2,4-Trimethylbenzene	ND		0.50	3.0

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## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053125

Lab Sample ID: 580-50524-2

Client Matrix: Water

Date Sampled: 06/03/2015 1225

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662495.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 1947			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 1947				

Analyte	Result (ug/L)	Qualifier	MDL	RL
sec-Butylbenzene	ND		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluene	ND		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0
n-Butylbenzene	ND		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND	*	0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	ND	*	0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0
Ethyl t-butyl ether	ND		0.34	5.0
Diisopropyl ether	ND		0.12	1.0
Tert-amyl methyl ether	ND		0.29	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	99		85 - 120
4-Bromofluorobenzene (Surr)	103		75 - 120
Dibromofluoromethane (Surr)	96		85 - 115
Trifluorotoluene (Surr)	101		70 - 136
1,2-Dichloroethane-d4 (Surr)	99		70 - 120

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## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053125

Lab Sample ID: 580-50524-2

Client Matrix: Water

Date Sampled: 06/03/2015 1225

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662495.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 1947			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 1947				

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

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## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053125

Lab Sample ID: 580-50524-2

Client Matrix: Water

Date Sampled: 06/03/2015 1225

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191404	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359000.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/06/2015 1750	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/06/2015 1750				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.22	1.0
Chloroethane	ND		0.40	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	99		85 - 120
4-Bromofluorobenzene (Surr)	92		75 - 120
Dibromofluoromethane (Surr)	108		85 - 115
Trifluorotoluene (Surr)	97		70 - 136
1,2-Dichloroethane-d4 (Surr)	91		70 - 120

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## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053125

Lab Sample ID: 580-50524-2

Client Matrix: Water

Date Sampled: 06/03/2015 1225

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191404	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359000.D
Dilution:	1.0	Run Type:	RA	Initial Weight/Volume:	5 mL
Analysis Date:	06/06/2015 1750			Final Weight/Volume:	5 mL
Prep Date:	06/06/2015 1750				

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

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## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053126

Lab Sample ID: 580-50524-3

Client Matrix: Water

Date Sampled: 06/03/2015 1430

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662496.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2013			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2013				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0
Chloromethane	ND		0.64	5.0
Bromomethane	ND		0.27	5.0
Trichlorofluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
Benzene	ND		0.42	2.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
Toluene	ND		0.44	2.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropane	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND	*	0.15	1.0
Chlorobenzene	ND		0.42	2.0
Ethylbenzene	ND		0.51	3.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
m-Xylene & p-Xylene	ND		0.13	3.0
o-Xylene	ND		0.49	2.0
Styrene	ND		0.62	5.0
Bromoform	ND		0.21	1.0
Isopropylbenzene	ND		0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	ND		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	ND		0.50	3.0
4-Chlorotoluene	ND		0.46	2.0
t-Butylbenzene	ND		0.53	3.0
1,2,4-Trimethylbenzene	ND		0.50	3.0

MM 6-29-15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053126

Lab Sample ID: 580-50524-3

Client Matrix: Water

Date Sampled: 06/03/2015 1430

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662496.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2013			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2013				

Analyte	Result (ug/L)	Qualifier	MDL	RL
sec-Butylbenzene	ND		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluehe	ND		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0
n-Butylbenzene	ND		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND	*	0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	ND	*	0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0
Ethyl t-butyl ether	ND		0.34	5.0
Diisopropyl ether	ND		0.12	1.0
Tert-amyl methyl ether	ND		0.29	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	98		85 - 120
4-Bromofluorobenzene (Surr)	100		75 - 120
Dibromofluoromethane (Surr)	100		85 - 115
Trifluorotoluene (Surr)	101		70 - 136
1,2-Dichloroethane-d4 (Surr)	98		70 - 120

MW 6-29-15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053126

Lab Sample ID: 580-50524-3

Client Matrix: Water

Date Sampled: 06/03/2015 1430

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 580-191343

Instrument ID: TAC043

Prep Method: 5030B

Prep Batch: N/A

Lab File ID: vb001662496.D

Dilution:

1.0

Initial Weight/Volume: 10 mL

Analysis Date: 06/05/2015 2013

Final Weight/Volume: 10 mL

Prep Date: 06/05/2015 2013

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number

Analyte

RT

Est. Result (ug/L)

Qualifier

Tentatively Identified Compound

None

MW  
6/23/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053126

Lab Sample ID: 580-50524-3

Client Matrix: Water

Date Sampled: 06/03/2015 1430

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191404	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359001.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/06/2015 1816	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/06/2015 1816				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.22	1.0
Chloroethane	ND		0.40	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	101		85 - 120
4-Bromofluorobenzene (Surr)	94		75 - 120
Dibromofluoromethane (Surr)	109		85 - 115
Trifluorotoluene (Surr)	95		70 - 136
1,2-Dichloroethane-d4 (Surr)	96		70 - 120

MW  
6/26/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053126

Lab Sample ID: 580-50524-3

Client Matrix: Water

Date Sampled: 06/03/2015 1430

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191404	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359001.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/06/2015 1816	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/06/2015 1816				

#### Tentatively Identified Compounds

#### Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

MW  
6/29/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053127

Lab Sample ID: 580-50524-4

Client Matrix: Water

Date Sampled: 06/03/2015 1805

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662497.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2039			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2039				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND	^	0.31	2.0
Chloromethane	ND	^	0.64	5.0
Bromomethane	ND	^	0.27	5.0
Trichlorofluoromethane	ND	^	0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
Benzene	ND		0.42	2.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
Toluene	ND		0.44	2.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropene	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND		0.15	1.0
Chlorobenzene	ND	F1	0.42	2.0
Ethylbenzene	ND		0.51	3.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
m-Xylene & p-Xylene	ND	F1	0.13	3.0
o-Xylene	ND	F1	0.49	2.0
Styrene	ND	F1 F2	0.62	5.0
Bromoform	ND		0.21	1.0
Isopropylbenzene	ND		0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	ND		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	ND	F1 F2	0.50	3.0
4-Chlorotoluene	ND		0.46	2.0
t-Butylbenzene	ND	F1	0.53	3.0
1,2,4-Trimethylbenzene	ND	F1 F2	0.50	3.0

MW628-16

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053127

Lab Sample ID: 580-50524-4

Client Matrix: Water

Date Sampled: 06/03/2015 1805

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662497.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2039			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2039				

Analyte	Result (ug/L)	Qualifier	MDL	RL
sec-Butylbenzene	ND		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluene	ND		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0
n-Butylbenzene	ND		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND	^ F1 *	0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	ND		0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0
Ethyl t-butyl ether	ND		0.34	5.0
Diisopropyl ether	ND		0.12	1.0
Tert-amyl methyl ether	ND		0.29	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	94		85 - 120
4-Bromo fluoro benzene (Surr)	103		75 - 120
Dibromo fluoro methane (Surr)	98		85 - 115
Trifluorotoluene (Surr)	98		70 - 136
1,2-Dichloroethane-d4 (Surr)	100		70 - 120

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053127

Lab Sample ID: 580-50524-4

Client Matrix: Water

Date Sampled: 06/03/2015 1805

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 580-191343

Instrument ID: TAC043

Prep Method: 5030B

Prep Batch: N/A

Lab File ID: vb001662497.D

Dilution: 1.0

Initial Weight/Volume: 10 mL

Analysis Date: 06/05/2015 2039

Final Weight/Volume: 10 mL

Prep Date: 06/05/2015 2039

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

MW 6-29-15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053127

Lab Sample ID: 580-50524-4

Date Sampled: 06/03/2015 1805

Client Matrix: Water

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191404	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359002.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/06/2015 1842	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/06/2015 1842				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.22	1.0
Chloroethane	ND		0.40	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	90		85 - 120
4-Bromofluorobenzene (Surr)	98		75 - 120
Dibromofluoromethane (Surr)	116	X	85 - 115
Trifluorotoluene (Surr)	82		70 - 136
1,2-Dichloroethane-d4 (Surr)	134	X	70 - 120

MW  
6-29-15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053127

Lab Sample ID: 580-50524-4

Client Matrix: Water

Date Sampled: 06/03/2015 1805

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191404	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359002.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/06/2015 1842	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/06/2015 1842				

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

*MW  
6-24-15*

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053128

Lab Sample ID: 580-50524-5

Client Matrix: Water

Date Sampled: 06/03/2015 1330

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662500.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2158			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2158				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0
Chloromethane	ND		0.64	5.0
Bromomethane	ND		0.27	5.0
Trichlorofluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
Benzene	ND		0.42	2.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
Toluene	ND		0.44	2.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropene	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND	*	0.15	1.0
Chlorobenzene	ND		0.42	2.0
Ethylbenzene	ND		0.51	3.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
m-Xylene & p-Xylene	ND		0.13	3.0
o-Xylene	ND		0.49	2.0
Styrene	ND		0.62	5.0
Bromoform	ND		0.21	1.0
Isopropylbenzene	ND		0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	ND		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	ND		0.50	3.0
4-Chlorotoluene	ND		0.46	2.0
t-Butylbenzene	ND		0.53	3.0
1,2,4-Trimethylbenzene	ND		0.50	3.0

MM 6-24-15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053128

Lab Sample ID: 580-50524-5

Client Matrix: Water

Date Sampled: 06/03/2015 1330

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662500.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2158			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2158				

Analyte	Result (ug/L)	Qualifier	MDL	RL
sec-Butylbenzene	ND		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluene	ND		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0
n-Butylbenzene	ND		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND	*	0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	ND	*	0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0
Ethyl t-butyl ether	ND		0.34	5.0
Diisopropyl ether	ND		0.12	1.0
Tert-amyl methyl ether	ND		0.29	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	99		85 - 120
4-Bromofluorobenzene (Surr)	101		75 - 120
Dibromofluoromethane (Surr)	98		85 - 115
Trifluorotoluene (Surr)	97		70 - 136
1,2-Dichloroethane-d4 (Surr)	99		70 - 120

MM  
6/24/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053128

Lab Sample ID: 580-50524-5

Client Matrix: Water

Date Sampled: 06/03/2015 1330

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 580-191343

Instrument ID: TAC043

Prep Method: 5030B

Prep Batch: N/A

Lab File ID: vb001662500.D

Dilution: 1.0

Initial Weight/Volume: 10 mL

Analysis Date: 06/05/2015 2158

Final Weight/Volume: 10 mL

Prep Date: 06/05/2015 2158

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

MW 6/23/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053128

Lab Sample ID: 580-50524-5

Client Matrix: Water

Date Sampled: 06/03/2015 1330

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191404	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359003.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/06/2015 1909	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/06/2015 1909				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.22	1.0
Chloroethane	ND		0.40	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	93		85 - 120
4-Bromofluorobenzene (Surr)	100		75 - 120
Dibromofluoromethane (Surr)	116	X	85 - 115
Trifluorotoluene (Surr)	82		70 - 136
1,2-Dichloroethane-d4 (Surr)	138	X	70 - 120

MW  
6-24-15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053128

Lab Sample ID: 580-50524-5

Client Matrix: Water

Date Sampled: 06/03/2015 1330

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 580-191404

Instrument ID: TAC036

Prep Method: 5030B

Prep Batch: N/A

Lab File ID: hp359003.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 06/06/2015 1909

Run Type: RA

Final Weight/Volume: 5 mL

Prep Date: 06/06/2015 1909

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number

Analyte

RT

Est. Result (ug/L)

Qualifier

Tentatively Identified Compound

None

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053129

Lab Sample ID: 580-50524-6

Client Matrix: Water

Date Sampled: 06/03/2015 1425

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662501.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2224			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2224				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0
Chloromethane	ND		0.64	5.0
Bromomethane	ND		0.27	5.0
Trichlorofluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
Benzene	ND		0.42	2.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
Toluene	ND		0.44	2.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropane	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND	*	0.15	1.0
Chlorobenzene	ND		0.42	2.0
Ethylbenzene	ND		0.51	3.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
m-Xylene & p-Xylene	ND		0.13	3.0
o-Xylene	ND		0.49	2.0
Styrene	ND		0.62	5.0
Bromoform	ND		0.21	1.0
Isopropylbenzene	ND		0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	ND		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	ND		0.50	3.0
4-Chlorotoluene	ND		0.46	2.0
t-Butylbenzene	ND		0.53	3.0
1,2,4-Trimethylbenzene	ND		0.50	3.0

MR 6245

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053129

Lab Sample ID: 580-50524-6

Client Matrix: Water

Date Sampled: 06/03/2015 1425

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662501.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2224			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2224				

Analyte	Result (ug/L)	Qualifier	MDL	RL
sec-Butylbenzene	ND		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluene	ND		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0
n-Butylbenzene	ND		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND	*	0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	ND	*	0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0
Ethyl t-butyl ether	ND		0.34	5.0
Diisopropyl ether	ND		0.12	1.0
Tert-amyl methyl ether	ND		0.29	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	93		85 - 120
4-Bromofluorobenzene (Surr)	99		75 - 120
Dibromofluoromethane (Surr)	99		85 - 115
Trifluorotoluene (Surr)	96		70 - 136
1,2-Dichloroethane-d4 (Surr)	98		70 - 120

MM  
62955

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053129

Lab Sample ID: 580-50524-6

Client Matrix: Water

Date Sampled: 06/03/2015 1425

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662501.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2224			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2224				

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

MW  
6/23/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053129

Lab Sample ID: 580-50524-6

Client Matrix: Water

Date Sampled: 06/03/2015 1425

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191528	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359028.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/08/2015 2135	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/08/2015 2135				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.22	1.0
Chloroethane	ND		0.40	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	105		85 - 120
4-Bromofluorobenzene (Surr)	97		75 - 120
Dibromofluoromethane (Surr)	98		85 - 115
Trifluorotoluene (Surr)	96		70 - 136
1,2-Dichloroethane-d4 (Surr)	85		70 - 120

MW  
6-29-15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053129

Lab Sample ID: 580-50524-6

Client Matrix: Water

Date Sampled: 06/03/2015 1425

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191528	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359028.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/08/2015 2135	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/08/2015 2135				

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

**Client Sample ID:** 15053130

Lab Sample ID: 580-50524-7

Client Matrix: Water

Date Sampled: 06/03/2015 1610

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662502.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2250			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2250				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0
Chloromethane	ND		0.64	5.0
Bromomethane	ND		0.27	5.0
Trichlorodifluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
Benzene	0.87	JQ	0.42	2.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
Toluene	5.1		0.44	2.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropane	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND	*	0.15	1.0
Chlorobenzene	ND		0.42	2.0
Ethylbenzene	ND		0.51	3.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
m-Xylene & p-Xylene	2.0	JQ	0.13	3.0
o-Xylene	0.90	JQ	0.49	2.0
Styrene	ND		0.62	5.0
Bromoform	ND		0.21	1.0
Isopropylbenzene	ND		0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	ND		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	ND		0.50	3.0
4-Chlorotoluene	ND		0.46	2.0
t-Butylbenzene	ND		0.53	3.0
1,2,4-Trimethylbenzene	ND		0.50	3.0

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053130

Lab Sample ID: 580-50524-7

Client Matrix: Water

Date Sampled: 06/03/2015 1610

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662502.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2250			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2250				

Analyte	Result (ug/L)	Qualifier	MDL	RL
sec-Butylbenzene	ND		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluene	ND		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0
n-Butylbenzene	ND		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND	*	0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	ND	*	0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0
Ethyl t-butyl ether	ND		0.34	5.0
Diisopropyl ether	ND		0.12	1.0
Tert-amyl methyl ether	ND		0.29	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	97		85 - 120
4-Bromofluorobenzene (Surr)	100		75 - 120
Dibromofluoromethane (Surr)	100		85 - 115
Trifluorotoluene (Surr)	98		70 - 136
1,2-Dichloroethane-d4 (Surr)	97		70 - 120

*MW  
6/24/15*

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053130

Lab Sample ID: 580-50524-7

Client Matrix: Water

Date Sampled: 06/03/2015 1610

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662502.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2250			Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2250				

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

MW  
6/29/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053130

Lab Sample ID: 580-50524-7

Date Sampled: 06/03/2015 1610

Client Matrix: Water

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191528	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359029.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/08/2015 2201	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/08/2015 2201				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Vinyl chloride	ND		0.22	1.0
Chloroethane	ND		0.40	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	106		85 - 120
4-Bromofluorobenzene (Surr)	102		75 - 120
Dibromofluoromethane (Surr)	100		85 - 115
Trifluorotoluene (Surr)	76		70 - 136
1,2-Dichloroethane-d4 (Surr)	91		70 - 120

MW  
6/23/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053130

Lab Sample ID: 580-50524-7

Client Matrix: Water

Date Sampled: 06/03/2015 1610

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191528	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359029.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/08/2015 2201	Run Type:	RA	Final Weight/Volume:	5 mL
Prep Date:	06/08/2015 2201				

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

MW  
6/29/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053131

Lab Sample ID: 580-50524-8

Client Matrix: Water

Date Sampled: 06/03/2015 1845

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191528	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359027.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/08/2015 2109			Final Weight/Volume:	5 mL
Prep Date:	06/08/2015 2109				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0
Chloromethane	ND		0.64	5.0
Vinyl chloride	ND		0.22	1.0
Bromomethane	ND		0.27	5.0
Chloroethane	ND		0.40	5.0
Trichlorofluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND		0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
1,2-Dichloroethane	ND		0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropene	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropane	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND		0.15	1.0
Chlorobenzene	ND		0.42	2.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
Styrene	ND		0.62	5.0
Bromoform	ND		0.21	1.0
Isopropylbenzene	16		0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	40		0.57	3.0
1,2,3-Trichloropropane	ND		0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	61		0.50	3.0
4-Chlorotoluene	ND		0.46	2.0
t-Butylbenzene	ND		0.53	3.0
sec-Butylbenzene	4.1		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluene	1.6		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0

7/6/2015

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053131

Lab Sample ID: 580-50524-8

Client Matrix: Water

Date Sampled: 06/03/2015 1845

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191528	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp359027.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/08/2015 2109			Final Weight/Volume:	5 mL
Prep Date:	06/08/2015 2109				

Analyte	Result (ug/L)	Qualifier	MDL	RL
n-Butylbenzene	9.9		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND		0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	27		0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0
Ethyl t-butyl ether	ND		0.34	5.0
Diisopropyl ether	0.45	JQ	0.12	1.0
Tert-amyl methyl ether	ND		0.29	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	105		85 - 120
4-Bromofluorobenzene (Surr)	102		75 - 120
Dibromofluoromethane (Surr)	97		85 - 115
Trifluorotoluene (Surr)	72		70 - 136
1,2-Dichloroethane-d4 (Surr)	88		70 - 120

MM  
62445

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053131

Lab Sample ID: 580-50524-8

Client Matrix: Water

Date Sampled: 06/03/2015 1845

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 580-191528

Instrument ID: TAC036

Prep Method: 5030B

Prep Batch: N/A

Lab File ID: hp359027.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 06/08/2015 2109

Final Weight/Volume: 5 mL

Prep Date: 06/08/2015 2109

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

MM/6-29-15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053131

Lab Sample ID: 580-50524-8

Date Sampled: 06/03/2015 1845

Client Matrix: Water

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662503.D
Dilution:	100			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2316	Run Type:	DL	Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2316				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	2300		42	200
Toluene	6700		44	200
Ethylbenzene	420		51	300
m-Xylene & p-Xylene	1900		13	300
o-Xylene	690		49	200
1,2,4-Trimethylbenzene	490		50	300

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	103		85 - 120
4-Bromofluorobenzene (Surr)	98		75 - 120
Dibromofluoromethane (Surr)	98		85 - 115
Trifluorotoluene (Surr)	97		70 - 136
1,2-Dichloroethane-d4 (Surr)	95		70 - 120

MW  
6-29-15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053131

Lab Sample ID: 580-50524-8

Client Matrix: Water

Date Sampled: 06/03/2015 1845

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191343	Instrument ID:	TAC043
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	vb001662503.D
Dilution:	100			Initial Weight/Volume:	10 mL
Analysis Date:	06/05/2015 2316	Run Type:	DL	Final Weight/Volume:	10 mL
Prep Date:	06/05/2015 2316				

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

MM6-29-15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053132

Lab Sample ID: 580-50524-9

Client Matrix: Water

Date Sampled: 06/04/2015 0730

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191404	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358992.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/06/2015 1419			Final Weight/Volume:	5 mL
Prep Date:	06/06/2015 1419				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dichlorodifluoromethane	ND		0.31	2.0
Chloromethane	ND		0.64	5.0
Vinyl chloride	ND		0.22	1.0
Bromomethane	ND		0.27	5.0
Chloroethane	ND		0.40	5.0
Trichlorofluoromethane	ND		0.63	3.0
1,1-Dichloroethene	ND		0.33	2.0
Methylene Chloride	ND		1.3	5.0
trans-1,2-Dichloroethene	ND		0.24	1.0
1,1-Dichloroethane	ND		0.44	2.0
2,2-Dichloropropane	ND	* ^	0.68	3.0
cis-1,2-Dichloroethene	ND		0.21	1.0
Bromochloromethane	ND		0.29	2.0
Chloroform	ND		0.17	1.0
1,1,1-Trichloroethane	ND		0.58	3.0
Carbon tetrachloride	ND		0.55	3.0
1,1-Dichloropropene	ND		0.50	3.0
Benzene	ND		0.42	2.0
1,2-Dichloroethane	ND	^	0.16	1.0
Trichloroethene	ND		0.51	3.0
1,2-Dichloropropane	ND		0.18	1.0
Dibromomethane	ND		0.14	1.0
Bromodichloromethane	ND		0.30	2.0
cis-1,3-Dichloropropene	ND		0.20	1.0
Toluene	ND		0.44	2.0
trans-1,3-Dichloropropene	ND		0.16	1.0
1,1,2-Trichloroethane	ND		0.24	1.0
Tetrachloroethene	ND		0.75	3.0
1,3-Dichloropropene	ND		0.15	1.0
Dibromochloromethane	ND		0.20	1.0
1,2-Dibromoethane	ND	^	0.15	1.0
Chlorobenzene	ND		0.42	2.0
Ethylbenzene	ND		0.51	3.0
1,1,1,2-Tetrachloroethane	ND		0.48	2.0
1,1,2,2-Tetrachloroethane	ND		0.24	1.0
m-Xylene & p-Xylene	ND		0.13	3.0
o-Xylene	ND	*	0.49	2.0
Styrene	ND		0.62	5.0
Bromoform	ND	^	0.21	1.0
Isopropylbenzene	ND	*	0.30	2.0
Bromobenzene	ND		0.42	2.0
N-Propylbenzene	ND		0.57	3.0
1,2,3-Trichloropropane	ND	^	0.41	2.0
2-Chlorotoluene	ND		0.52	3.0
1,3,5-Trimethylbenzene	ND		0.50	3.0
4-Chlorotoluene	ND		0.46	2.0

7/29/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053132

Lab Sample ID: 580-50524-9

Client Matrix: Water

Date Sampled: 06/04/2015 0730

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191404	Instrument ID:	TAC036
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	hp358992.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	06/06/2015 1419			Final Weight/Volume:	5 mL
Prep Date:	06/06/2015 1419				

Analyte	Result (ug/L)	Qualifier	MDL	RL
t-Butylbenzene	ND		0.53	3.0
1,2,4-Trimethylbenzene	ND		0.50	3.0
sec-Butylbenzene	ND		0.53	3.0
1,3-Dichlorobenzene	ND		0.44	2.0
4-Isopropyltoluene	ND		0.53	3.0
1,4-Dichlorobenzene	ND		0.39	2.0
n-Butylbenzene	ND		0.63	3.0
1,2-Dichlorobenzene	ND		0.35	2.0
1,2-Dibromo-3-Chloropropane	ND		0.40	2.0
1,2,4-Trichlorobenzene	ND		0.23	1.0
1,2,3-Trichlorobenzene	ND		0.32	2.0
Hexachlorobutadiene	ND		0.49	2.0
Naphthalene	ND		0.26	2.0
Methyl tert-butyl ether	ND		0.17	1.0
Ethyl t-butyl ether	ND		0.34	5.0
Diisopropyl ether	ND		0.12	1.0
Tert-amyl methyl ether	ND		0.29	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Toluene-d8 (Surr)	109		85 - 120
4-Bromofluorobenzene (Surr)	93		75 - 120
Dibromofluoromethane (Surr)	96		85 - 115
Trifluorotoluene (Surr)	100		70 - 136
1,2-Dichloroethane-d4 (Surr)	74		70 - 120

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053132

Lab Sample ID: 580-50524-9

Client Matrix: Water

Date Sampled: 06/04/2015 0730

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 580-191404

Instrument ID: TAC036

Prep Method: 5030B

Prep Batch: N/A

Lab File ID: hp358992.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 06/06/2015 1419

Final Weight/Volume: 5 mL

Prep Date: 06/06/2015 1419

#### Tentatively Identified Compounds

#### Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/L)	Qualifier
	Tentatively Identified Compound		None	

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

**Client Sample ID:** 15053511

Lab Sample ID: 580-50524-10

Client Matrix: Solid

% Moisture: 15.3

Date Sampled: 06/03/2015 0916

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191460	Instrument ID:	SEA046
Prep Method:	5035	Prep Batch:	580-191616	Lab File ID:	F0915016.D
Dilution:	1.0			Initial Weight/Volume:	5.642 g
Analysis Date:	06/10/2015 0330			Final Weight/Volume:	5 mL
Prep Date:	06/05/2015 0840				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane		ND	*	4.7	49
1,1,1-Trichloroethane		ND		6.9	49
1,1,2,2-Tetrachloroethane		ND	*	2.8	12
1,1,2-Trichloroethane		ND	*	3.4	15
1,1-Dichloroethane		ND	*	5.2	49
1,1-Dichloroethene		ND		6.0	25
1,1-Dichloropropene		ND	*	6.5	49
1,2,3-Trichlorobenzene		ND	*	3.8	49
1,2,3-Trichloropropane		ND	*	14	49
1,2,4-Trichlorobenzene		ND	*	4.8	49
1,2,4-Trimethylbenzene		ND	*	2.9	49
1,2-Dibromo-3-Chloropropane		ND	*	3.2	250
1,2-Dibromoethane		ND	*	4.2	20
1,2-Dichlorobenzene		ND	*	15	49
1,2-Dichloroethane		ND	*	4.0	20
1,2-Dichloropropane		ND		2.9	15
1,3,5-Trimethylbenzene		ND	*	3.6	49
1,3-Dichlorobenzene		ND	*	13	74
1,3-Dichloropropane		ND	*	6.7	49
1,4-Dichlorobenzene		ND	*	13	74
2,2-Dichloropropane		ND		5.9	49
2-Chlorotoluene		ND	*	4.2	49
4-Chlorotoluene		ND	*	3.7	49
4-Isopropyltoluene		ND	*	3.4	49
Benzene		ND	*	4.3	20
Bromobenzene		ND	*	2.9	49
Bromochloromethane		ND	*	5.6	49
Bromodichloromethane		ND	*	1.7	49
Bromoform	9.3	J H		8.0	49
Bromomethane		ND		16	170
Carbon tetrachloride		ND		4.7	25
Chlorobenzene		ND	*	12	49
Chloroethane		ND		20	490
Chloroform		ND	*	5.2	49
Chloromethane		ND	*	12	120
cis-1,2-Dichloroethene		ND	*	6.0	49
cis-1,3-Dichloropropene		ND	*	2.2	20
Dibromochloromethane		ND	*	3.4	25
Dibromomethane		ND	*	16	74
Dichlorodifluoromethane		ND		8.0	49
Ethylbenzene	4.5	U	J H M	2.5	49
Hexachlorobutadiene		ND	*	22	98
Isopropylbenzene		ND	*	3.2	49
Methyl tert-butyl ether		ND	*	7.4	49
Methylene Chloride	21	U	J H M	14	31
m-Xylene & p-Xylene	4.3	U	J H M	3.7	49

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053511

Lab Sample ID: 580-50524-10

Client Matrix: Solid

% Moisture: 15.3

Date Sampled: 06/03/2015 0916

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C	Analysis Batch: 580-191460	Instrument ID: SEA046
Prep Method: 5035	Prep Batch: 580-191616	Lab File ID: F0915016.D
Dilution: 1.0		Initial Weight/Volume: 5.642 g
Analysis Date: 06/10/2015 0330		Final Weight/Volume: 5 mL
Prep Date: 06/05/2015 0840		

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Naphthalene		4.5	J P Q M H	4.3	49
n-Butylbenzene		ND	*	4.3	49
N-Propylbenzene		ND	*	3.2	49
o-Xylene		ND	*	3.7	49
sec-Butylbenzene		ND	*	3.4	49
Styrene		ND	*	2.9	49
t-Butylbenzene		ND	*	3.8	49
Tetrachloroethene		16	J P Q M H	6.5	25
Toluene		7.9	J P Q M H	3.2	49
trans-1,2-Dichloroethene		8.1	J P Q M H	4.7	49
trans-1,3-Dichloropropene		ND	J P Q M H	8.6	49
Trichloroethene		10	J P Q M H	3.8	29
Trichlorofluoromethane		ND	J P Q M H	7.2	49
Vinyl chloride		ND	*	8.7	20
Ethyl t-butyl ether		ND	*	6.4	49
Diisopropyl ether		ND	*	4.3	49
Tert-amyl methyl ether		ND	*	4.4	49

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99		71 - 136
4-Bromofluorobenzene (Surr)	99		70 - 120
Dibromofluoromethane (Surr)	100		75 - 132
Toluene-d8 (Surr)	100		80 - 120
Trifluorotoluene (Surr)	102		65 - 140

*MW  
6-29-15*

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053511

Lab Sample ID: 580-50524-10

Client Matrix: Solid

% Moisture: 15.3

Date Sampled: 06/03/2015 0916

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 580-191460

Instrument ID: SEA046

Prep Method: 5035

Prep Batch: 580-191616

Lab File ID: F0915016.D

Dilution: 1.0

Initial Weight/Volume: 5.642 g

Analysis Date: 06/10/2015 0330

Final Weight/Volume: 5 mL

Prep Date: 06/05/2015 0840

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

MM  
6-28-15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

**Client Sample ID:** 15053512

Lab Sample ID: 580-50524-11

Client Matrix: Solid

% Moisture: 5.2

Date Sampled: 06/03/2015 0930

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191460	Instrument ID:	SEA046
Prep Method:	5035	Prep Batch:	580-191616	Lab File ID:	F0915017.D
Dilution:	1.0			Initial Weight/Volume:	5.762 g
Analysis Date:	06/10/2015 0403			Final Weight/Volume:	5 mL
Prep Date:	06/05/2015 0840				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane		ND	*	3.7	39
1,1,1-Trichloroethane		ND		5.4	39
1,1,2,2-Tetrachloroethane		ND	*	2.2	9.7
1,1,2-Trichloroethane		ND	*	2.7	12
1,1-Dichloroethane		ND	*	4.1	39
1,1-Dichloroethene		ND		4.8	19
1,1-Dichloropropene		ND	*	5.1	39
1,2,3-Trichlorobenzene		ND	*	3.0	39
1,2,3-Trichloropropane		ND	*	11	39
1,2,4-Trichlorobenzene		ND	*	3.8	39
1,2,4-Trimethylbenzene		ND	*	2.3	39
1,2-Dibromo-3-Chloropropane		ND	*	2.5	190
1,2-Dibromoethane		ND	*	3.3	16
1,2-Dichlorobenzene		ND	*	12	39
1,2-Dichloroethane		ND	*	3.2	16
1,2-Dichloropropane		ND		2.3	12
1,3,5-Trimethylbenzene		ND	*	2.8	39
1,3-Dichlorobenzene		ND	*	10	58
1,3-Dichloropropane		ND	*	5.3	39
1,4-Dichlorobenzene		ND	*	10	58
2,2-Dichloropropane		ND		4.7	39
2-Chlorotoluene		ND	*	3.3	39
4-Chlorotoluene		ND	*	2.9	39
4-Isopropyltoluene		ND	*	2.7	39
Benzene		ND	*	3.4	16
Bromobenzene		ND	*	2.3	39
Bromochloromethane		ND	*	4.5	39
Bromodichloromethane		ND	*	1.4	39
Bromoform		ND	*	6.3	39
Bromomethane		ND		13	140
Carbon tetrachloride		ND		3.7	19
Chlorobenzene		ND	*	9.5	39
Chloroethane		ND		15	390
Chloroform		ND	*	4.1	39
Chloromethane		ND	*	9.8	97
cis-1,2-Dichloroethene		ND	*	4.8	39
cis-1,3-Dichloropropene		ND	*	1.7	16
Dibromochloromethane		ND	*	2.7	19
Dibromomethane		ND	*	13	58
Dichlorodifluoromethane		ND		6.3	39
Ethylbenzene		ND	*	1.9	39
Hexachlorobutadiene		ND	*	18	78
Isopropylbenzene		ND	*	2.5	39
Methyl tert-butyl ether		ND	*	5.8	39
Methylene Chloride		18	JL QM	11	24
m-Xylene & p-Xylene		3.6	JL P M	2.9	39

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053512

Lab Sample ID: 580-50524-11

Client Matrix: Solid

% Moisture: 5.2

Date Sampled: 06/03/2015 0930

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	580-191460	Instrument ID:	SEA046
Prep Method:	5035	Prep Batch:	580-191616	Lab File ID:	F0915017.D
Dilution:	1.0			Initial Weight/Volume:	5.762 g
Analysis Date:	06/10/2015 0403			Final Weight/Volume:	5 mL
Prep Date:	06/05/2015 0840				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Naphthalene		5.4	J B QM	3.4	39
n-Butylbenzene		ND	*	3.4	39
N-Propylbenzene		ND	*	2.5	39
o-Xylene		ND	*	2.9	39
sec-Butylbenzene		ND	*	2.7	39
Styrene		ND	*	2.3	39
t-Butylbenzene		ND	*	3.0	39
Tetrachloroethene		16	J B QM	5.1	19
Toluene		7.1	J B QM	2.5	39
trans-1,2-Dichloroethene		ND		3.7	39
trans-1,3-Dichloropropene		ND	*	6.8	39
Trichloroethene		7.2	J B QM	3.0	23
Trichlorofluoromethane		ND		5.7	39
Vinyl chloride		ND	*	6.9	16
Ethyl t-butyl ether		ND	*	5.0	39
Diisopropyl ether		ND	*	3.4	39
Tert-amyl methyl ether		ND	*	3.5	39

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	106		71 - 136
4-Bromofluorobenzene (Surr)	101		70 - 120
Dibromofluoromethane (Surr)	97		75 - 132
Toluene-d8 (Surr)	99		80 - 120
Trifluorotoluene (Surr)	96		65 - 140

MM  
6/24/15

## Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-50524-1

Client Sample ID: 15053512

Lab Sample ID: 580-50524-11

Client Matrix: Solid

% Moisture: 5.2

Date Sampled: 06/03/2015 0930

Date Received: 06/05/2015 0825

### 8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 580-191460

Instrument ID: SEA046

Prep Method: 5035

Prep Batch: 580-191616

Lab File ID: F0915017.D

Dilution: 1.0

Initial Weight/Volume: 5.762 g

Analysis Date: 06/10/2015 0403

Final Weight/Volume: 5 mL

Prep Date: 06/05/2015 0840

#### Tentatively Identified Compounds

Number TIC's Found: 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

MW  
6/29/15